

WHAT IS CLAIMED IS:

- 1 1. An isolated population of antigen presenting cells expressing CD11c⁺,
2 CD14⁺.
- 1 2. The isolated population of CD11c⁺, CD14⁺ antigen presenting cells
2 according to claim 1, wherein the antigen presenting cells are dendritic cells.
- 1 3. The isolated cell population according to claim 2, wherein the
2 population is enriched for the CD11c⁺, CD14⁺ dendritic cells.
- 1 4. The isolated dendritic cell population according to claim 2, wherein the
2 dendritic cell population is substantially enriched for mature dendritic cells.
- 1 5. The isolated dendritic cell population according to claim 2, wherein the
2 dendritic cell population is substantially enriched for immature dendritic cells.
- 1 6. The isolated dendritic cell population according to claim 2, further
2 comprising a predetermined antigen.
- 1 7. The isolated dendritic cell population according to claim 6, wherein the
2 predetermined antigen is a tumor-specific antigen, a tumor associated antigen, a bacterial
3 antigen, or a viral antigen.
- 1 8. The isolated dendritic cell population according to claim 7, wherein the
2 tumor-associated antigen is a prostate-associated antigen.
- 1 9. The isolated dendritic cell population according to claim 8, wherein the
2 prostate-associated antigen is prostate-specific antigen (PSA), prostate-specific membrane
3 antigen (PSMA), or prostatic acid phosphatase (PAP).
- 1 10. The isolated dendritic cell population according to claim 6, wherein the
2 predetermined antigen is an autoantigen.
- 1 11. The isolated dendritic cell population according to claim 2, further
2 comprising at least one cytokine.

- 1 12. The isolated dendritic cell population according to claim 11, wherein
2 the at least one cytokine is a proinflammatory cytokine.
- 1 13. The isolated dendritic cell population according to claim 12, wherein
2 the proinflammatory cytokine is $\text{TNF}\alpha$, $\text{IL-1}\beta$, or CD40 ligand.
- 1 14. The isolated dendritic cell population according to claim 11, wherein
2 the at least one cytokine is an anti-inflammatory cytokine.
- 1 15. The isolated dendritic cell population according to claim 14, wherein
2 the anti-inflammatory cytokine is IL-10 , $\text{TGF-}\beta$, or PGE_2 .
- 1 16. The isolated dendritic cell population according to claim 2, further
2 comprising an enriched population of T cells, or NK cells.
- 1 17. The isolated dendritic cell population according to claim 16, wherein
2 the enriched population of T cells is a cell population comprising isolated T cells.
- 1 18. The isolated dendritic cell population according to claim 16, wherein
2 the isolated population of T cells is substantially enriched for T cells.
- 1 19. The isolated dendritic cell population according to claim 16, wherein
2 the dendritic cell population and the T cell population are autologous, syngeneic, or
3 allogeneic.
- 1 20. The isolated dendritic cell population according to claim 16, wherein
2 the T cell population is substantially enriched for CD4^+ T cells.
- 1 21. The isolated dendritic cell population according to claim 16, wherein
2 the T cell population is substantially enriched for CD8^+ T cells.
- 1 22. The isolated dendritic cell population according to claim 16, wherein
2 the T cell population is comprised of a mixed population of CD4^+ and CD8^+ T cells.
- 1 23. The isolated dendritic cell population according to claim 16, wherein
2 the enriched population of NK cells is a cell population comprising isolated NK cells.

1 24. The isolated dendritic cell population according to claim 16, wherein
2 the enriched population of NK cells is a cell population substantially enriched for NK cells

1 25. The isolated dendritic cell population according to claim 16, wherein
2 the dendritic cell population and the NK cell population are autologous, syngeneic, or
3 allogeneic.

1 26. A composition comprising an isolated population of CD11c⁺, CD14⁺
2 dendritic cells and a prostate-specific membrane antigen (PSMA).

1 27. The composition according to claim 26 further comprising an isolated
2 population of T cells or NK cells.

1 28. A method for isolating a population of CD11c⁺, CD14⁺ dendritic cells,
2 comprising:

3 obtaining a population of dendritic cell precursors,

4 differentiating the precursors into immature or mature dendritic cells, and

5 selecting the population of CD11c⁺, CD14⁺ dendritic cells from the immature
6 or mature dendritic cells.

1 29. The method according to claim 28, wherein the population of dendritic
2 cell precursors is obtained by contacting a monocytic dendritic cell precursor-adhering
3 substrate with a population of leukocytes.

1 30. The method according to claim 28, wherein the differentiation of
2 dendritic cell precursors to immature and mature dendritic cells comprises culturing the
3 precursors with at least one cytokine.

1 31. The method according to claim 30, wherein the at least one cytokine is
2 GM-CSF, interleukin 4, GM-CSF and interleukin 4, interleukin 13, or interleukin 15.

1 32. The method according to claim 30, wherein the differentiation of
2 dendritic cell precursors to immature and mature dendritic cells comprises culturing the
3 precursors in the presence of plasma to promote the differentiation of the CD14⁺ dendritic
4 cells.

1 33. The method according to claim 28, wherein the differentiation of
2 dendritic cell precursors to immature and mature dendritic cells comprises culturing the
3 precursors with a predetermined antigen.

1 34. The method according to claim 28, wherein the isolation of CD11c⁺,
2 CD14⁺ dendritic cells from the immature and mature dendritic cells comprises

3 admixing the population of dendritic cell precursors with a CD14 specific
4 probe under conditions conducive to the formation of a complex with the CD14 expressing
5 dendritic cells;

6 detecting the CD14-expressing cells complexed with the CD14-specific probe;
7 and

8 selecting the CD11c⁺, CD14⁺ dendritic cells.

1 35. The method according to claim 34, wherein the CD14-specific probe is
2 a CD14-specific antibody.

1 36. The method according to claim 28, wherein the selection of CD11c⁺,
2 CD14⁺ dendritic cells from the immature and mature dendritic cells comprises affinity
3 selection of the CD14⁺ dendritic cells with a CD14-specific probe coupled to a substrate.

1 37. The method according to claim 36, wherein the CD14-specific probe is
2 an anti-CD14 antibody.

1 38. The method according to claim 36, wherein the substrate coupled to
2 the CD14-specific probe is a magnetic bead.

1 39. The method according to claim 28, further comprising culturing the
2 CD11c⁺, CD14⁺ dendritic cells to obtain an isolated population substantially enriched for
3 mature dendritic cells.

1 40. A method for modulating an T cell response to a predetermined
2 antigen, comprising:

3 obtaining an isolated population of CD11c⁺, CD14⁺ dendritic cells;

4 contacting the isolated population of CD11c⁺, CD14⁺ dendritic cells with a
5 predetermined antigen; and

6 contacting the isolated population of CD11c⁺, CD14⁺ dendritic cells with T
7 cells to modulate the T cell response to the predetermined antigen.

1 41. The method according to claim 40, wherein the CD11c⁺, CD14⁺
2 dendritic cells have been obtained from skin, spleen, bone marrow, thymus, lymph nodes,
3 peripheral blood, or cord blood.

1 42. The method according to claim 40, wherein the CD11c⁺, CD14⁺
2 dendritic cells and the T cells are autologous, syngeneic, or allogeneic.

1 43. The method according to claim 40, wherein the CD11c⁺, CD14⁺
2 dendritic cells are contacted with the T cells *in vitro* or *ex vivo*.

1 44. The method according to claim 40, wherein the predetermined antigen
2 is a tumor-specific antigen, a tumor associated antigen, autoantigen, or a viral antigen.

1 45. The method according to claim 44, wherein the tumor-associated
2 antigen is a prostate cancer-associated antigen.

1 46. The method according to claim 45, wherein the prostate cancer-
2 associated antigen is prostate-specific antigen (PSA), prostate-specific membrane antigen
3 (PSMA), or prostatic acid phosphatase (PAP).

1 47. The method according to claim 40, wherein the T cells are an isolated
2 population T cells substantially enriched for CD4⁺ T cells.

1 48. The method according to claim 40, wherein the T cells are an isolated
2 population of T cells substantially enriched for CD8⁺ T cells.

1 49. The method according to claim 40, wherein the T cells are an isolated
2 population of T cells comprising a mixed population of CD4⁺ and CD8⁺ T cells.